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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,483	03/14/2007	Kazumasa Kamachi	2006-0024A	8977

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ART UNIT	PAPER NUMBER
1724	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/564,483	KAMACHI ET AL.	
	Examiner	Art Unit	
	Fred Prince	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6 and 7* is/are rejected.

7)☒ Claim(s) *5 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *0106*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. Claims 1-2 and 6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6-7, 9 and 12 of copending Application No. 10/551,818. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter of the instant claims is fully encompassed by the claims of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then

narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 2 recites the broad recitation 1% to 4%, and the claim also recites 1% to 2% which is the narrower statement of the range/limitation. For examination purposes, the broader range will be considered to be the claimed range.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (f) he did not himself invent the subject matter sought to be patented.

6. Claims 1-2, 4, 6-7 are rejected under 35 U.S.C. 102(e, f) as being anticipated by Kamachi et al. (US Pub. No. 2006/0243660).

The applied reference has at least one common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). Based upon the fact that the instant applicant names one inventor not present in the earlier reference, it constitutes prior art under 102(f). This rejection under 35 U.S.C. 102(e, f) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Kamachi et al. teach a process for methane fermentation treatment of an organic wastewater containing a sulfur compound, which comprises: detecting a concentration of hydrogen sulfide in a biogas generated from a step of methane fermentation treatment (2); and conducting a control of subjecting the organic wastewater to a desulfurization treatment operation in the case that the concentration of hydrogen sulfide in the biogas exceeds a predetermined value ([0038, 0041]), adding an iron-containing compound ([0032]).

Per claim 7, Kamachi et al. do not disclose that the tank has a function of regenerating the desulfurizing agent by an aeration.

It is submitted that the function recited is a recitation of intended use, failing to add structure to the claimed apparatus. If it is applicant's position that the limitation somehow adds structure to the claim, it is submitted that the apparatus of capable of

regenerating the desulfurizing agent since the apparatus includes means for adding chemicals.

7. Claims 1,3, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoda et al. (JP 8-323387).

Yoda et al. teach a process for methane fermentation treatment of an organic wastewater containing a sulfur compound, which comprises: detecting a concentration of hydrogen sulfide in a biogas generated from a step of methane fermentation treatment ([0006]); and conducting a control of subjecting the organic wastewater to a desulfurization treatment operation in the case that the concentration of hydrogen sulfide in the biogas exceeds a predetermined value ([0007]), adding an iron-containing compound ([0005]) in the recited molar ratio.

Per claim 7, Yoda et al. do not disclose that the tank has a function of regenerating the desulfurizing agent by an aeration.

It is submitted that the function recited is a recitation of intended use, failing to add structure to the claimed apparatus. If it is applicant's position that the limitation somehow adds structure to the claim, it is submitted that the apparatus of capable of regenerating the desulfurizing agent since the apparatus includes means for adding chemicals.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Trocciola et al. (US Pat No 5,916,438).

Trocciola et al. teach a process for methane fermentation treatment of an organic wastewater containing a sulfur compound, which comprises: detecting a concentration of hydrogen sulfide in a biogas generated from a step of methane fermentation treatment (col. 2, lines 11-14); and conducting a control of subjecting the organic wastewater (col. 2, line 50) to a desulfurization treatment operation in the case that the concentration of hydrogen sulfide in the biogas exceeds a predetermined value.

Claim Rejections - 35 USC § 103

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Yoda et al. or Trocciola et al.

Yoda et al. and Trocciola et al. are described above. Neither reference discloses the concentration instantly recited.

It is submitted that it well known in the art that hydrogen sulfide levels above 1% inhibit the production of methane, a desirable product (see, for example, US Pat No 6,709,591 to Ellis et al.). accordingly, it would have been readily obvious for the skilled artisan to set the threshold amount at least 1% in order to, for example, avoid inhibiting the production of the desirable by-product methane.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Yoda et al. or Trocciola et al. in view of Kato et al. (JP 10-305293).

Yoda et al. and Trocciola et al. are described above. Neither reference disclose utilizing an insoluble iron to remove sulfur.

In any case, Kato et al. disclose the well known concept of adding insoluble iron in order to, for example, avoid inhibition of digestion of a wastewater undergoing digestion (abstract). Accordingly, it would have been readily obvious for the skilled artisan to modify the method of either Yoda et al. or Trocciola et al. such it includes adding insoluble iron in order to, for example, avoid inhibition of digestion of a wastewater undergoing digestion.

Allowable Subject Matter

11. Claims 5 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: While claims 3 and 4 are not allowable for the reasons provided above, in the examiner's opinion, the prior art fails to teach or fairly suggest the method further comprising the step of the desulfurization treatment operation has a function of regenerating the desulfurizing agent by an aeration.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (571) 272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fred Prince
Primary Examiner
Art Unit 1724

fgp
9/14/07